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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,358	06/23/2003	Leonard N. Schiff	000010U1	8897

23696 7590 05/02/2007
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EXAMINER

LEE, ANDREW CHUNG CHEUNG

ART UNIT	PAPER NUMBER
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2616

NOTIFICATION DATE	DELIVERY MODE
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05/02/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/602,358

Applicant(s)

SCHIFF, LEONARD N.

Examiner

Andrew C. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed subject matter "non-contiguous time intervals" as disclosed in claims 1, 8, 15, 26, 35, and "de-scattering schedule" as disclosed in claims 24, 33 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 32, 34 are objected to because of the following informalities:

Claim 32 for method claim is inconsistent. Claim 32 is disclosed as method claim while it is a dependent claim that depends on claim 26. Claim 26 is an apparatus claim.

Claim 34 for method claim is inconsistent. Claim 34 is disclosed as method claim while it is a dependent claim that depends on claim 33. Claim 33 is an apparatus claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 26 – 32, 35 – 38 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

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Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 8 – 14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Considering claim 8,

To determine whether the claimed subject matter complies with the is eligibility requirement of 35 USC 101, we ask

Does the claimed invention fall within an enumerated statutory category? The answer is “No”.

As evidenced at page 14, lines 6 to 14 of the specification, in “the present invention can also be embodied in the form of program code, for example, whether stored in a storage medium, loaded into and/or executed by a machine, or transmitted over some transmission medium or carrier, such as over electrical wiring or cabling, through fiber optics, or via electromagnetic radiation”. Thus, claim 8 is nothing more than a signal, and a signal is non-statutory subject matter. It is also well established that a software application, i.e. computer program, per se is not physical “thing”. The computer program is neither computer components nor statutory processes. Such claimed computer program does not define any structural and functional interrelationship between the computer program and the rest of the computer, which permits the computer program’s functionality to be realized.

In addition, as set forth in the Interim Guidelines page 52, for a computer program to be statutory it must be embedded in a computer readable medium, and

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since claim 37 does not comply with the requirements of the Interim Guideline, it is non-statutory.

Thus, for the above reasons, claims 8 – 14 are non-statutory.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 2, 5, 7, 8, 9, 12, 13, 14, 15, 16, 17, 23, 24, 33, 25, 34, 26, 27, 28, 32, 35, 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakano et al. (5446739).

Regarding claim 1, 35, Nakano et al. disclose the limitation of a method, apparatus comprising: receiving, at a terminal device, one or more scattering instructions, the scattering instructions providing information for temporally scattering at least one portion of a plurality of time slot data, the temporal scattering dividing the at least one portion of time slot data into at least two temporally non-contiguous time intervals ("two time slots are assigned such that the portable station will not receive continuous time slots. Thus these two time slots are spaced with at least by one time slot interval" correlates to the scattering instructions providing information for temporally scattering at least one portion of a plurality of time slot data, the temporal scattering

dividing the at least one portion of time slot data into at least two temporally non-contiguous time intervals, "time slot assignment" correlates to scattering instructions, "portable station" correlates to a terminal device; column 4, lines 34 – 44); and transmitting the temporally scattered data ("at time slot TS5, data of the carrier frequency f_a is transmitted from the transmitter T_a of the portable station" correlates to transmitting the temporally scattered data; column 5, lines 5 – 17, Fig. 3).

Regarding claims 2, 9, 36, Nakano et al. disclose the limitation of the method, terminal device, apparatus of claimed, further comprising receiving configuration information, wherein the one or more scattering instructions are included with the configuration information ("time slot assignment" correlates to configuration information; Fig. 2, Fig. 3, column 4, lines 34 – 57).

Regarding claims 5, 13, Nakano et al. discloses the limitation of the method, terminal device of claimed wherein the one or more scattering instructions ("time slot assignment" correlates to scattering instructions; column 4, lines 34 – 44) comprise a tabular indication of how to temporally scatter the data (Fig. 3, column 4, lines 58 – 68, column 5, lines 1 – 4).

Regarding claims 7, 14, Nakano et al. disclose the limitation of the method, terminal device of claimed wherein the one or more scattering instructions comprise an algorithm for temporally scattering the data ("time slot assignment" correlates to

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configuration information comprise an algorithm; Fig. 2, Fig. 3, column 4, lines 34 – 57, Fig. 9, column 15 – 18).

Regarding claims 8, 12, Nakano et al. disclose the limitation of a terminal device ("portable station" correlates to a terminal device, Fig. 1), comprising: a processor (Fig. 10, element 30b "controller" correlates to a processor; column 10, lines 41 – 46); a memory of stored time-scattering control information coupled to the processor (Fig. 10, element 30c, "a memory for storing data required to control the controller; column 10, lines 41 – 46) and a machine accessible medium (Fig. 10, element 30a switch correlates to a machine accessible medium; column 10, lines 41 – 46), coupled to the processor, having instructions encoded therein, the instructions, when executed by the processor, cause the terminal device to: receive one or more scattering instructions, the scattering instructions providing information for temporally scattering at least one portion of a plurality of time slot data, the temporal scattering dividing the at least one portion of time slot data into at least two temporally non-contiguous time intervals (two time slots are assigned such that the portable station will not receive continuous time slots. Thus these two time slots are spaced with at least by one time slot interval" correlates to the scattering instructions providing information for temporally scattering at least one portion of a plurality of time slot data, the temporal scattering dividing the at least one portion of time slot data into at least two temporally non-contiguous time intervals, "time slot assignment" correlates to scattering instructions, "portable station" correlates to a terminal device; column 4, lines 34 – 44); and transmitting the temporally scattered data

("at time slot TS5, data of the carrier frequency f_a is transmitted from the transmitter Ta of the portable station" correlates to transmitting the temporally scattered data; column 5, lines 5 – 17, Fig. 3).

Regarding claims 15, 26, Nakano et al. disclose the limitation of a method, apparatus comprising: receiving a request from a terminal device for access to a communications channel (Fig. 9, element "request communication channel" correlates to receiving a request from a terminal device for access to a communications channel; column 9, lines 19 – 22); generating a schedule of transmission for the terminal device, the schedule dividing the terminal device's transmissions of time slot data into at least two temporally non-contiguous time intervals (Fig. 9, column 9, lines 23 – 36); and transmitting the schedule of transmission to the terminal device (column 9, lines 37 – 52).

Regarding claims 16, 27, Nakano et al. disclose the limitation of the method, apparatus of claimed wherein receiving the request comprises receiving an indication of the amount of data queued at the terminal device for communication ("request to the cell station at a transmission rate of 64 kbps or a request slot number of '2'" correlates to receiving the request comprises receiving an indication of the amount of data queued at the terminal device for communication; column 9, lines 19 – 22).

Regarding claims 17, 28, Nakano et al. disclose the limitation of the method, apparatus of claimed wherein the schedule of transmission comprises a list of time intervals ("assigns to the portable station 10b a relative slot number "2" (a pair of time slots TS2 and TS6) and a relative slot number "3" (a pair of time slots TS3 and TS7) as well as the carrier frequency "fb" correlates to the schedule of transmission comprises a list of time intervals; column 9, lines 25 – 36).

Regarding claims 23, 32, Nakano et al. disclose the limitation of the method, apparatus of claimed further comprising receiving data from the terminal device, transmitted in a scattered manner per the scattering instructions, and reordering the data in accordance with the scattering schedule to obtain the data in its originally intended order (column 4, lines 34 – 44).

Regarding claims 24, 33. Nakano et al. disclose the limitation of a method, apparatus for communicating, comprising: steps and means for providing a de-scattering schedule to a plurality of terminal devices (Fig. 7, illustrates a time slots arrangement for the case where audio communication is performed between the cell station and the portable stations at a transmission rate of 32 kbps using a single time slot, therefore the portable ^{stations} must inherently have a de-scattering schedule in order to determine and know which slot/time frame is assigned to it; column 8, lines 22 – 38); and steps and means for transmitting a plurality of time-scattered data to the plurality of terminal devices (Fig. 8, column 8, lines 39 – 68).

Regarding claims 25, 34. Nakano et al. disclose the limitation of the method of claim 33, further comprising means for receiving at least a portion of the plurality of time-scattered data at a first one of the plurality of terminal devices, and means for reordering the received portion of time-scattered data (Fig. 9, column 9, lines 19 – 36).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3, 4, 6, 10, 11, 18, 19, 20, 21, 22, 29, 30, 31, 37, 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Nakano et al. (5446739) in view of Schlosser et al. (3879581).

Regarding claims 3, 10, 37, Nakano et al. disclose the limitation of the method, terminal device, apparatus of claimed wherein the one or more scattering instructions ("time slot assignment" correlates to scattering instructions; column 4, lines 34 – 44).

Nakano et al. do not teach the one or more scattering instructions comprise an index into a memory of stored time-scattering control information.

Schlosser et al. disclose the one or more scattering instructions comprise an index into a memory of stored time-scattering control information ("store the current

status of the time slots and the terminals for use by the controllers and also store the addresses of the terminals using each of the time slots” correlates to the one or more scattering instructions comprise an index into a memory of stored time-scattering control information; column 12, lines 40 – 55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nakano et al. to include the one or more scattering instructions comprise an index into a memory of stored time-scattering control information as taught by Schlosser et al. in order to provide a processing repeater capable of controlling the demand assignment of communication channels (as suggested by Schlosser et al., see column 1, lines 61 – 63).

Regarding claims 4, 11, 38, Nakano et al. disclose the limitation of the method, terminal device, apparatus of claimed wherein the memory is disposed within the terminal device (“memory for storing data” correlates to the memory is disposed within the terminal device; Fig. 10, element 30c, column 10, lines 41 – 46).

Regarding claim 6, Nakano et al. disclose the limitation of the method of claimed wherein the one or more scattering instructions (“time slot assignment” correlates to scattering instructions; column 4, lines 34 – 44) comprise a tabular indication of how to temporally scatter the data (Fig. 3, column 4, lines 58 – 68, column 5, lines 1 – 4).

Nakano et al. do not teach the method of claimed wherein the tabular indication specifies, by time interval identifier, a starting location for scattered data.

Schlosser et al. disclose the method of claimed wherein the tabular indication specifies, by time interval identifier, a starting location for scattered data ("the status word is temporarily stored in the up/down counter and the up/down counter is incremented each time either a fine sync code, or supplemental call is detected" correlates to the tabular indication by time interval identifier a starting location for scatter data; Fig. 37, column 25, lines 16 – 29, Fig. 38, element Start-of-TS also interpreted as a starting location for scatter data).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nakano et al. to include the tabular indication specifies, by time interval identifier, a starting location for scattered as taught by Schlosser et al. in order to provide a processing repeater capable of controlling the demand assignment of communication channels (as suggested by Schlosser et al., see column 1, lines 61 – 63).

Regarding claims 18, 29, Nakano et al. disclose the limitation of a method, apparatus comprising: receiving a request from a terminal device for access to a communications channel (Fig. 9, element "request communication channel" correlates to receiving a request from a terminal device for access to a communications channel; column 9, lines 19 – 22).

Nakano et al. do not teach the method, apparatus of claimed wherein each time interval comprises a starting location in a frame and a transmission duration.

Schlosser et al. disclose the limitation of the method, apparatus of claimed wherein each time interval comprises a starting location in a frame and a transmission duration (Fig. 38, column 25, lines 16 – 29).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nakano et al. to provide the method, apparatus of claimed wherein each time interval comprises a starting location in a frame and a transmission duration as taught by Schlosser et al. in order to provide a processing repeater capable of controlling the demand assignment of communication channels (as suggested by Schlosser et al., see column 1, lines 61 – 63).

Regarding claims 19, 30, Nakano et al. disclose the limitation of a method, apparatus comprising: receiving a request from a terminal device for access to a communications channel (Fig. 9, element “request communication channel” correlates to receiving a request from a terminal device for access to a communications channel; column 9, lines 19 – 22).

Nakano et al. do not teach the method, apparatus of claimed further comprising transmitting modulation control information for the time scattered data.

Schlosser et al. disclose the limitation of the method, apparatus of claimed further comprising transmitting modulation control information for the time scattered data (Fig. 5, “receive and translates a continuous four-phase PSK signal” correlates to transmitting modulation control information; column 10, lines 44 – 60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nakano et al. to the method, apparatus of claimed further comprising transmitting modulation control information for the time scattered data as taught by Schlosser et al. in order to provide a processing repeater capable of controlling the demand assignment of communication channels (as suggested by Schlosser et al., see column 1, lines 61 – 63).

Regarding claim 20, Nakano et al. disclose the limitation of the method of claimed wherein the communications channel is divided into frames and wherein each frame is divided into a number of time slots in accordance with a dividing rate (Fig. 2, column 4, lines 34 – 37).

Regarding claims 21, 31, Nakano et al. do not teach the method, apparatus of claimed wherein the starting location comprises a time slot and the transmission duration comprises a number of time intervals.

Nakano et al. do not teach the method, apparatus of claimed wherein each time interval comprises a starting location in a frame and a transmission duration.

Schlosser et al. disclose the limitation of the method, apparatus of claimed wherein each time interval comprises a starting location in a frame and a transmission duration comprises a number of time intervals (Fig. 38, column 25, lines 16 – 29).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nakano et al. to provide the method, apparatus of

claimed wherein each time interval comprises a starting location in a frame and a transmission duration comprises a number of time intervals as taught by Schlosser et al. in order to provide a processing repeater capable of controlling the demand assignment of communication channels (as suggested by Schlosser et al., see column 1, lines 61 – 63).

Regarding claim 22, Nakano et al. do not teach the method, apparatus of claimed wherein the starting location comprises a first time interval identifier and the transmission duration comprises a second time interval identifier.

Schlosser et al. discloses the limitation of the method, apparatus of claimed wherein the starting location comprises a first time interval identifier and the transmission duration comprises a second time interval identifier (Fig. 38, column 25, lines 16 – 29, column 26, lines 34 – 48).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nakano et al. to provide the method, apparatus of claimed wherein the starting location comprises a first time interval identifier and the transmission duration comprises a second time interval identifier as taught by Schlosser et al. in order to provide a processing repeater capable of controlling the demand assignment of communication channels (as suggested by Schlosser et al., see column 1, lines 61 – 63).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Hangen et al. (4792948) disclose a communication network made up of distributed switching stations controlled by a network control center.
- Dutta (US 6301232 B1) disclose a method configures at least one channel group of a communication system. The channel group includes at least one forward channel and at least one return channel. A central station transmits data over the forward channel to a plurality of terminals, and transmissions by each terminal to the central station occur on a return channel.
- Kim et al. (4625308) disclose an all digital TDMA dynamic channel allocated satellite communications system and method provides a satellite communications network between geographically separated nodes. The topology of the network is controlled by an on-line master node in accordance with user demands and operator commands received from the nodes in the network.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571) 272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on (571) 272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew C. Lee/::<4/05/2007>


WING CHAN
SUPERVISORY PATENT EXAMINER